

II. AMENDMENTS TO THE CLAIMS:

Claims 1-7 are currently amended.

The following listing of claims will replace all prior versions of claims in the present application. No new matter has been added to the claims.

Listing of Claims:

1. (Currently Amended) A double-chamber type heat-treating furnace comprising:

(a) a hermetically closable cooling furnace incorporating therein a cooling chamber and arranged for cooling an object after being subjected to heating;

(b) a hermetically closable heating furnace incorporating therein a heating chamber disposed at a position adjacent to the cooling chamber and arranged for heating the object; and

(c) a transfer unit arranged for transferring the object between the heating chamber and the cooling chamber, wherein

the transfer unit comprises:

i. a plurality of free rollers disposed within the heating and cooling chambers, respectively, and for supporting the object at only both ends of the object in a direction of width thereof to be movable in a transferring direction;

ii. a push-pull member capable of moving while being engaged with the object thereby pushing or pulling the object between the heating and cooling chambers, wherein the push-pull member is of a length such that when a rearmost end of the push-pull member comes to a position close to a first side of the heating chamber, a frontmost end of the push-pull member arrives at a position located inside the cooling chamber; and

iii. a drive unit arranged at a position adjacent to the heating chamber on a side opposite to a side on which the cooling chamber is disposed and capable of driving the push-pull device.

2. (Currently Amended) The double-chamber type heat-treating furnace according to claim 1, wherein the push-pull member comprises an engaging member capable of turning up to a higher position thereof where the engaging member~~it~~ is engaged with the object to horizontally push and pull the object, and lying down to a lower position thereof where the engaging member~~it~~ moves horizontally without being engaged with the object.

3. (Currently Amended) The double-chamber type heat-treating furnace according to claim 2, wherein the drive unit comprises:

- (1) a horizontally movable chain connected to a rearmost end of the push-pull member and being capable of horizontally moving;
- (2) a sprocket engaged with the horizontally movable chain; and
- (3) a rotational motor that rotationally drives the sprocket.

4. (Currently Amended) The double-chamber type heat-treating furnace according to claim 1, wherein the cooling furnace comprises:

- i. a carrying-in/out door for the cooling chamber, wherein the carrying-in/out door~~which~~ is arranged on a side opposite to the side on which the heating chamber is provided and is arranged for carrying the object into and out of the cooling chamber; and
- ii. a gas-cooling/circulating unit for the cooling chamber, wherein the gas-cooling/circulating unit~~which~~ cools and circulates a gas vertically passing through an inside of the cooling chamber; and

the cooling chamber is provided for surrounding a cooling region in which the object is permitted to be steadily placed and ~~defining, in an inside of the cooling chamber~~ defines~~region, and having~~ a gas passageway with a constant cross-section in a vertical direction.

5. (Currently Amended) The double-chamber type heat-treating furnace according to claim 1, wherein the heating furnace comprises:

- _____ i. a vacuum container of which an interior is exhausted to at vacuum;
- _____ ii. a heating chamber capable of receiving therein the object;
- _____ iii. a front door for introducing and delivering the object into and from the heating chamber;
- _____ iv. a rear door for closing an opening provided for permitting, therethrough, the object within the heating chamber to be moved;
- _____ v. a mounting bed for mounting thereon the object to be horizontally movable back and forth; and
- _____ vi. a heater arranged for heating the object.

6. (Currently Amended) The double-chamber type heat-treating furnace according to claim 5, wherein the heating furnace further comprises a gas-cooling/circulating device for the heating chamber, wherein the gas-cooling/circulating device which cools and circulates a gas passing through an inside of the heating chamber.

7. (Currently Amended) The double-chamber type heat-treating furnace according to claim 5, wherein the heating furnace further comprises a carrying-in/out door for the heating furnace, wherein the carrying-in/out door which is disposed on a side opposite to the side on which the cooling chamber is disposed and is arranged for performing carrying-in of or carrying-out of the object.

8. (Previously Presented) The double-chamber type heat-treating furnace according to claim 1, wherein the transfer unit, the heating furnace and the cooling furnace are arranged in order.